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cc: Tom
Task: 4546

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DIV. OF OIL, GAS & MINING



LISBON VALLEY MINING CO

Mr. Jeffrey (Rock) Smith
US Bureau of Land Management
82 East Dogwood
Moab Utah 84532

October 24, 2011

Mr. Tom Munsen
Utah Division of Oil, Gas, & Mining
1594 West North Temple Suite 1210
Salt Lake City, UT 84114-5801

Re: Plan of Operations Modification Request for Partial Centennial Pit Backfill, Lisbon Valley Mining Co., LLC. 920 South County Road 313, La Sal, Utah, 84530

Dear Mr. Smith and Mr. Munsen:

As discussed with BLM on September 2, 2011, the Lisbon Valley Mining Co., LLC (LVMC) is working through the engineering phases of a comprehensive revision to its current Plan of Operations (POO). This revision, planned for submittal in 2012, will propose a significant expansion of mining activities. It is our understanding that the scope of these activities will require a Supplemental Environmental Impact Statement pursuant to NEPA.

By contrast, this letter constitutes a formal request under 43 C.F.R. Section 3809.430 to revise the POO to authorize backfilling the "Penny Pit" area of the Centennial Pit. Penny Pit is the west portion of the Centennial Pit. This area can contain approximately 19M tons of waste rock from the east portion of the Centennial Pit. The waste rock to be backfilled in the Penny Pit [Burro Canyon Formation (Beds 14 & 15)] is the same lithology and geochemistry as the rock mined from the Penny Pit.

The waste rock generated from the Centennial Pit is currently permitted to be placed on any of the approved dumps with capacity. However, this request will result in a variety of environmental and operational benefits, including:

- Reduced haul truck miles
- Increased safety to haul truck operators
- Reduced dust generation
- Reduced need for water consumption for dust suppression
- Reduced haul truck air emissions
- Reduced waste dumps

The Penny Pit Backfilling modification is proposed as an independent revision to the POO since it is unrelated to the anticipated large-scale POO revision in 2012. Moreover, the proposal to backfill a portion of the Centennial Pit as outlined in this letter is time-sensitive. An extended approval period will result in the loss of opportunity to backfill based on the current mining schedule. The current proposal is also different than the forthcoming POO modification process because the underlying issue, partially backfilling the Centennial Pit, was evaluated in great detail during the NEPA process that authorized the current POO.

In developing this proposal, LVM has noted that the original NEPA process included formal consideration of a POO alternative that would have partially backfilled open pits. The administrative record (AR) contains a great deal of information and consideration of the "Partial Backfilling" alternative. The discussion regarding the Partial Backfilling alternative starts in Section 2.3.2 of the Final Environmental Impact Statement (FEIS),¹ page 2-39.

Before providing details about the Penny Pit backfill proposal, we would like to explain our understanding of the NEPA process that applies to this request. The purpose of this discussion is not to try to dictate the process that BLM will determine is appropriate or the decision that BLM will ultimately reach. We recognize that BLM, in consultation with the State of Utah, will need to make an independent decision regarding this request, based on information presented and considered during the process. Rather, we are simply trying to better understand the process and anticipate the kinds of information BLM might require in order to facilitate its review and determination of this request. Hopefully this process can be concluded very efficiently, within the relatively short timeframe associated with this proposal.

As we understand the process as described in the C.F.R. and BLM NEPA Handbook (H-1790-1) (NEPA Handbook), if BLM determines that this proposed modification does not constitute a "substantive change that requires additional analysis" under NEPA (*see* 43 C.F.R. Section 3809.432(b)), this request may be approved pursuant to a finding of NEPA adequacy: "The BLM NEPA procedures also provide for the use of existing NEPA documents. If a proposed action is adequately covered by an existing EIS or EA, then you may document a "Determination of NEPA Adequacy" (DNA)." NEPA Handbook at 3. Also on the same page, the NEPA Handbook explains that an action "that would limit the choice of alternatives being analyzed"

¹ US Department of the Interior Bureau of Land Management 1997. Final Environmental Impact Statement Lisbon Valley Copper Project February, 1997.

until after the NEPA process is complete, except that "this requirement does not apply to actions previously analyzed in a NEPA document that are proposed for implementation under an existing land use plan." Existing NEPA documents include an EIS or prior EA.

Chapter 5 of the BLM Handbook addresses "Using Existing Environmental Analyses." The introduction states in part: "You may use existing environmental analyses to analyze effects associated with a proposed action, when doing so would build on work that has already been done, avoid redundancy, and provide a coherent and logical record of the analytical and decision-making process." NEPA Handbook at 21.

Section 5.1.2 identifies the following questions that should be asked when determining whether the existing NEPA documents "adequately cover a proposed action currently under consideration," including:

1. Is the new proposed action a feature of, or essentially similar to, an alternative analyzed in the existing NEPA document(s)?
2. Is the range of alternatives analyzed in the existing NEPA document(s) appropriate with respect to the new proposed action, given current environmental concerns, interests, and resource values?
3. Is the existing analysis valid in light of any new information or circumstances
Can you reasonably conclude that new information and new circumstances would not substantially change the analysis of the new proposed action?
4. Are the direct, indirect, and cumulative effects that would result from implementation of the new proposed action similar (both quantitatively and qualitatively) to those analyzed in the existing NEPA document?

"If you answer 'yes' to all of the above questions, additional analysis will not be necessary. If you answer 'no' to any of the above questions, a new EA or EIS must be prepared (516 DM 11.6) However, it may still be appropriate to tier or incorporate by reference from the existing EA or EIS or supplement the existing EIS (provided that the Federal action has not yet been implemented)." NEPA Handbook, pages 22-23. This discussion appears to relate to 43 C.F.R. Section 3809.432(b), providing: "BLM will accept a minor modification without formal approval if it is consistent with the approved plan of operations and does not constitute a substantive change that requires additional analysis under the National Environmental Policy Act." Our understanding is that a determination of NEPA adequacy is essentially the same as a "minor modification" as referenced in the C.F.R. More guidance as to the use of DNAs is found in Section 11.6 of the Department of Interior, Department Manual, Environmental Quality Programs, Part 516, Chapter 11 (May 8, 2008) (516 DM 11).

Chapter Five of the NEPA Handbook also addresses a variety of other issues, including document review, findings of NEPA adequacy, EAs, findings of no significant impact (FONSI) following EAs, decisions, protests, and appeals, incorporation by reference, and most important for this discussion, the idea of "tiering":

Tiering is using the coverage of general matters in broader NEPA documents in subsequent, narrower NEPA documents (40 CFR 1508.28, 40 CFR 1502.20). This allows the tiered NEPA document to narrow the range of alternatives and concentrate solely on the issues not already addressed. Tiering is appropriate when the analysis for the proposed action will be a more site-specific or project-specific refinement or extension of the existing NEPA document.

Before you tier to a NEPA document, evaluate the broader NEPA document to determine if it sufficiently analyzed site-specific effects and considered the current proposed action. If so, a DNA will be more appropriate than a subsequent, tiered NEPA document

NEPA Handbook at 27.

Our review of the AR for the FEIS suggests that the alternative of selective pit backfilling was fully addressed except for the question of potential impacts to groundwater. It appears, then, to be appropriate under these circumstances to use the EA process in order to address this single outstanding issue, particularly in light of the detailed information provided in Chapter 5 of the NEPA Handbook. The applicable CFR provision seems to be:

43 C.F.R. § 3802.3-1 Environmental assessment.

(a) When a plan of operations or significant modification is filed, the authorized officer shall make an environmental assessment to identify the impacts of the proposed mining operations upon the environment and to determine whether the proposed activity will impair the suitability of the area for preservation as wilderness or cause unnecessary and undue degradation and whether an environmental impact statement is required.

(b) Following completion of the environmental assessment or the environmental impact statement, the authorized officer shall develop measures deemed necessary for inclusion in the plan of operations that will prevent impairment of wilderness suitability and undue or unnecessary degradation of land and resources.

(c) If as a result of the environment assessment, the authorized officer determines that there is substantial public interest in the proposed mining operations, the operator may be notified that an additional period of time is required to consider public comments. The period shall not exceed the additional 60 days provided for approval of a plan in § 3802.1-4 of this title except as provided for cases requiring an environmental impact statement, a cultural resource inventory or section 7 of the Endangered Species Act.

Section 11.7 of 516 DM 11 also indicates that an EA "should be completed when the Responsible Official is uncertain of the potential for significant impacts and needs further analysis to make the determination." This criteria seems to be fulfilled here.

Our review of the AR indicates that the current proposal to partially backfill the Centennial Pit will not result in additional impacts to the environment that were not already taken into account through the original NEPA process, nor will it impair the suitability of the area for preservation as wilderness or cause unnecessary degradation. In any event, the purpose of the EA process is to make these determinations and ultimately support a Finding of No Significant Impact (FONSI) or a determination of NEPA adequacy, or a finding that a supplemental environmental impact statement should be required.

The circumstances requiring a supplemental EIS are addressed in detail in Section 5.3 of the NEPA Handbook and 40 C.F.R. Section 1502.9. As presented in the NEPA Handbook, a supplemental EIS is required when there is a "substantial change" to a proposed action; when a new alternative is added "that is outside the spectrum of alternatives already analyzed," and when "there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its effects." NEPA Handbook at 29. Continuing, the handbook explains: "'Substantial changes' in a proposed action may include changes in the design, location, or timing of a proposed action that are relevant to environmental concerns (i.e., the changes would result in significant effects outside of the range of effects analyzed in the draft or final EIS)." Section 5.3.2 of the NEPA Handbook describes situations when supplementation is not appropriate: "Supplementation is not necessary if you make changes in the proposed action that are not substantial (i.e., the effects of the changed proposed action are still within the range of effects analyzed in the draft or final EIS)." This discussion is consistent with Section 11.8 of 516 DM 11, describing "major actions" requiring a full EIS. Specifically as to mining, the DM, Section 11.8(B)(7) lists "[a]pproval of any mining operations where the area to be mined, including any area of disturbance, is 640 acres or larger in size." By contrast, under Section 11.8(C): "If potentially significant impacts are not anticipated for these actions, an EA will be prepared." Based on the foregoing, the Penny Pit backfill request does not seem to qualify as the type of modification where an EIS is warranted.

Yet, LVMC recognizes that the existing FEIS raises concerns about potential groundwater impacts related to the backfilling of open pits, and that these concerns were not adequately resolved in the FEIS. In order to further support this request for modification, LVMC has engaged the services of ARCADIS, a nationally-recognized engineering firm to perform a detailed groundwater simulation in order to provide necessary information to supplement the FEIS. In other words, LVMC desires to supplement the AR with information derived through ARCADIS that will, hopefully, be sufficient to support a FONSI, if that is BLM's conclusion after review of the data and information, through an EA process.

From our review of the AR, it appears that the effects of the action proposed here are well within the range of effects already analyzed in the FEIS and, therefore, supplementation does not appear to be appropriate. NEPA Handbook at 30. The selective backfilling of pits was considered at length during the original EIS process. As explained more fully below and in the AR, the Partial

Backfilling alternative was generally seen as being equally or more protective of the environment as compared to the "Waste Rock Selective Handling Alternative" that was ultimately adopted in the Record of Decision (ROD), particularly because selective backfilling resulted in reduced visual impacts, a reduction in the total acres of disturbed lands, and in the elimination of some or all open pit pools. However, the primary objection to the selective backfilling alternative related to the lack of data supporting a finding that groundwater would not be adversely impacted from exposure to mine waste rock in pits that were to be excavated below the natural groundwater table. All of these considerations resulted in selection of the Waste Rock Selective Handling Alternative.

The following evaluation was excerpted from the FEIS. It is included here to reiterate the scope of the former evaluation and demonstrate how an EA is appropriate for authorization in accordance with 43 C.F.R. 3802.2-1.

Administrative Record

Type of Potential Impact	Open Pit Backfilling Alternative
Topography	Reduction in depth of pits and heights of dumps compared to not backfilling. Would re-establish maximum useable topography.
Mineral Resources	Future development improbable due to backfilling.
Constructed Facilities-Potential Failures	Slope failure potential reduced compared to not backfilling due to diminished size of waste dumps.
Water Supply	No impact to water supply.
Water Use	Complete pit backfilling and diversion would preserve 1777 acre feet per year surface flow going down Lisbon Canyon.
Water Quality	Backfilling would expose waste rock to both potential acid and alkaline generation (in pockets) in pits and pile vicinities; reduced quantity waste rock exposed to these effects on the surface would be favorable, as would covering of potentially acid or alkaline materials exposed in pit walls, and eliminating evapoconcentration effects. <u>Unknown impact from utilizing waste material on-site for backfill material. Could adversely impact adjacent groundwater units.</u>
Acid Generation Potential	Backfilling would cover some potential acid or alkaline generating lithology, and decrease the amount of similar types of waste rock exposed in the surface dumps; <u>however replacement of this rock in pits may produce acid or alkaline</u>

	<u>water quality, potentially impacting adjacent groundwater units.</u>
Other Geochemical Issues – Alkaline Conditions and Related Effects.	Same as above.
Disturbance	Initial disturbance same as for not backfilling, but under the complete backfilling scenario, all 1103 acres of disturbance would be reclaimed. Under partial backfilling some dumps would remain on surface, and 231 acres of pits would remain unreclaimed.
Soil Quantity for Reclamation	Less cover soil material required for dumps reclamation but about 402,000 additional cu yards of material required for pit reclamation, necessitating additional disturbance to obtain this material in project vicinity or elsewhere.
Erosion Control and Reclamation effectiveness	Pit backfilling would reduce slope angles and erosion potential on pit walls and waste rock piles.
Disturbance of Pinyon Juniper, Grassland-Rangeland, and Sagebrush Communities.	Same as not backfilling except 1100 acres reclaimed with complete backfilling alternative. Partial backfilling would result in no reclamation along pit walls, backfilled areas could be re-vegetated.
Habitat Effects from Disturbance	Similar to not backfilling, except 110 acres reclaimed with complete backfilling scenario.
Wildlife	Same as not backfilling except exposure to abandoned pit lakes would not occur.
Project Closure Effects	No net loss of habitat if pits completely backfilled and reclaimed.
T&E Species	Same as not backfilling
Disturbance of Grazing Lands	Same as not backfilling
Animal Unit Months (AUM)	Similar to not backfilling; partial backfilling assumes no future grazing use on pit floor and assumes temporary loss of 71.6 AUMs during mining, full reclamation and no loss of AUMs in long term.
Final Reclamation	Same as above.
Economics and Employment	Backfilling could decrease economic employment effects due to the mine being scaled back as backfilling costs cut into profitability.
Housing	Similar to not backfilling with smaller mine and shorter project life, demand for housing would also be smaller and shorter in duration.

Local Facilities and Services	Effects on local infrastructure could be shortened; schedule and mine size would be scaled back.
Social Setting	Same as not backfilling.
Local Mine-Induced Traffic	Impacts similar to not backfilling but reduced in time to local road network due to backfilling activity limiting mine size.
Mine Operations Traffic	Increase in internal mine truck trips to backfill pits; no increase in haul trips anticipated across Lisbon Valley Road Intersection.
Accidents	Similar to not backfilling although shortened mine life, duration of accident risk would be reduced.
Road Maintenance	Less wear on county roads due to reduced scale of project, decreasing road maintenance costs to County.
Transportation	Duration may be reduced, due to reduced scale of project. Acid material trips reduced accordingly, fuel trips would increase due to backfilling by truck.
Storage and Use	Similar to not backfilling, shortened mine life, reduced duration risk of spills.
Generated Wastes during Operations	Same as above
Impacts to Culturally Significant Site under NRHP Criteria	Same as not backfilling
Collection/Vandalism	Same as not backfilling
Impacts to Significant Paleontological Resources	Same as not backfilling
Visual Contrasts during Project Operations	Same as not backfilling
Residual Visual Effects after Reclamation and Revegetation	Long-term effects less than not backfilling due to decreased height and extent of waste piles, and partially or fully backfilled pits presenting less visual impacts.
Land Use Changes	Use changes shorter in duration due to reduced mine life. Complete backfilling would return 231 acres to potential use.
Property Ownership Changes	Same as above
Compliance with National Ambient Air Quality Standards (NAAQS)	Not capable of being modeled with existing methodology; additional particulate emissions would occur from "double handling" of waste rock.
Increments of Air Contaminants Exceeding Background Levels	Same as above
Noise Level Impacts in Immediate Project	Noise from project operations same as not

Vicinity	backfilling except for a reduced project life.
Noise Level Impacts to Potential Area Residents	Same as above
Displacement of Recreational Activities	No different from not backfilling except impacts occur for a shorter duration due to a reduced project life.
Property Access	Same as above.

Project Background

The following section provides the background from which to propose an updated groundwater model to ascertain the potential for significant impacts to *adjacent and down gradient groundwater units* resulting from backfilling the Penny Pit at LVMC. The adjacent groundwater unit is the D Aquifer. The down gradient aquifer is the N Aquifer.

Current Groundwater Model

LVMC's currently approved groundwater model assesses the fate of evapo-concentrated pit pool development (total dissolved solids) only. It does not evaluate pit pool mixing with backfilled waste rock.

The model is a two-dimensional, finite-element, horizontal flow model and three-dimensional finite-element vertical flow model. The vertical model is a numerical implementation of the following concept:

Flow is predominantly vertical. Infiltration moves to the upper saturated zones, where it is essentially perched. Most of the infiltration seeps vertically to the underlying materials, which ultimately drain to the deep basin sediments.

The groundwater flow concept has been validated by groundwater monitoring and documented in annual update reports.² The methodology is documented in detail by Adrian Brown Consultants (ABC) in 1998³.

The vertical groundwater gradient condition is obviously significant, due to the occurrence of the deep N aquifer below the Centennial Pit. Using the approved and validated concept, results of the modified MWMP analysis will be integrated with an updated model to simulate the pit pool geochemistry and potential effects to both D and N Aquifers.

² Whetstone Associates Inc. 2009 Annual Update of the Hydrogeologic System Evaluation (December 2010).

³ ABC 1998. Annual Update of the Lisbon Valley Hydrologic System Evaluation, prepared by Adrian Brown Consultants Inc., for Summo USA Corporation, Report 1424A/980529. January 1998.

Current Waste Rock Analyses

LVMC currently analyzes its waste rock in accordance with the Meteoric Water Mobility Extraction Procedure (MWMP).⁴ This is a column procedure that evaluates the resulting pH and metals using an extraction pH of 5.7. A statistical evaluation of (D Aquifer) groundwater at the Mine indicates an overall neutral pH. Therefore LVMC has initiated a program of waste rock sampling and modified MWMP procedure that reflects neutral extraction. The statistical mean groundwater pH at the Mine is 7, therefore the modified MWMP will be run using a pH 7 extraction. Additional samples for the modified analysis are needed for statistical validity. Whole rock analyses will supplement the evaluation, and identify other potential constituents of concern.

Project Objective

As previously stated, the proposed simulation will be used to support a proposal to backfill the Centennial Pit. In this case, LVMC wishes to backfill the deeper Penny Pit with waste rock within the shallower portion of the Centennial Pit. Waste from the shallow side of the pit will be backfilled into a deeper portion in areas both inside and outside pit pool development. The backfilling is estimated to comprise approximately 19M tons of waste. The simulation will utilize MWMP analyses, using both acidic and neutral leachates along with total rock analyses to simulate the geochemistry in of a pit pool backfilled with waste rock.

The flow model will be validated or revised to simulate the resulting fate and transport to D and N Aquifers. The model will include pit pool mixing with waste rock, precipitation to pit, surface water run-off, pit wall run-off, groundwater inflow and outflow, and vertical seepage to the lower aquifer. LVMC plans to have the simulation complete by yr end 2011. The results will be submitted to BLM for their use in completing the EA or EIS, as determined.

⁴ Nevada Department of Environmental Protection MWMT Column Method 1996.

Project Scope

Specific tasks are listed below.

- Analyze waste rock to simulate mixing with pit pools;
- Prepare a spatial image of the subject pit area showing dimensions, geology, pit pool development, and planned backfill volume;
- Assess and revise the current conceptual model;
- Develop an appropriate technical approach to the aquifer geochemical
- Complete impact analyses using the existing model if applicable;
- Develop alternative approaches using new methodology if applicable;
- Conduct additional/detailed geochemical modeling and evaluation;
- Evaluate geochemical impacts of backfill addition to open pits;
- Present draft technical findings to LVMC; and
- Revise modeling approach, analyses, and presentation as appropriate.

Project Phases

The scope of work is divided into three phases, with waste rock analyses and backfill design preceding the model. Waste rock analyses are necessarily the initial phase due to the need for pit area-specific geochemistry and sample representation. Laboratory turn-around time is also a critical part of the schedule.

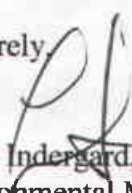
Backfill design is necessary prior to developing the model. LVMC will prepare a series of spatial images reflecting the sequence and dimensions of the planned backfill design. This will include subject pit area dimensions, geology, wall rock geochemistry, pit pool dimensions, and backfill dimensions. The images will be used to as the framework from which to illustrate the backfilling sequence, drainage, and reclamation surface.

The modeling phase, evaluation and reporting will complete the project. Assuming positive results, the model will be used to support backfill authorization using an EA process in accordance with 43 C.F.R. 3802.2-1.

Approval Request

LVMC appreciates the agencies' ongoing guidance and support as the LVMC continues the mine expansion for 2012. In the meantime, we look forward to your review, approval, and written request to proceed on the Penny Pit backfill project as outlined in this letter. Preliminary feedback as to our plan, including our understanding of the applicable NEPA process, would be very much appreciated so LVMC can be in a better position to ensure that this process can proceed as efficiently as possible. We are hopeful that we will be able to satisfy the NEPA process within the limited timeframe applicable to this backfill request. Please call Lantz Indergard at (435) 686-9950 #107 or email Lindergard@lisbonmine.com if additional information is needed.

Sincerely,



Lantz Indergard, P.G.
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